

REMARKS

Claims 14 to 23 and 27 are now pending in the present application. Claim 14 has been amended. No new matter has been added.

Applicants respectfully request reconsideration of the present application in view of this response.

35 U.S.C. § 112, second paragraph

Applicants thank the Examiner for noting that the rejection under 35 U.S.C. § 112, second paragraph, has been reconsidered and withdrawn.

35 U.S.C. § 103(a) – Widmer reference, Nakamura reference

Claims 14 to 18 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,151,373 to Widmer et al. (“Widmer reference”) in view of U.S. Patent No. 5,144,466 to Nakamura (“Nakamura reference”).

As discussed in Applicants’ previous responses, Applicants respectfully believe that the Widmer and Nakamura references (either separately or in combination) do not teach or describe each and every feature of the claims.

Specifically, the Widmer reference purportedly concerns a system for inserting extra-information bits into a bit sequence to be transmitted over a transmission channel and for suppressing such bits from the transmitted bit sequence, an inserter converting an input bit sequence which it receives at a first repetition frequency into a second repetition frequency, and a suppressor restoring the original input bit sequence which it receives from the transmitter at the second repetition frequency. The Widmer reference does not concern optical, fiber-bound information transfer or any wavelength-division multiplex network as in claim 14. The Nakamura reference purportedly concerns an optical fiber communication system using optical wavelength multiplexing and a multimedia optical fiber network using same in order to speed up transmission time – and not to provide any requisite features for transmitting signal and control information and useful information in a same transmission channel as claimed in claim 14. The Nakamura reference only provides a reference that shows that optical networks of such form are available – but not any method that shows how such optical networks can send two different informations along the same transmission channel as in the present application’s claims.

Applicants maintain that neither the Widmer reference nor the Nakamura reference teach or describe at least the features of performing a generation or an analysis of the signaling and control information in one of the network terminator and in a further network element; performing one of the steps of feeding the signaling and control information into the wavelength-division multiplex network, and removing the signaling and control information from the wavelength-division multiplex network; and using a time-division multiplex operation to transmit the signaling and control information with the defined fundamental

wavelength via the same components of the wavelength-division multiplex network as the corresponding useful information, wherein the signaling and control information is capable of being modulated independently of the useful information. The Widmar reference appears to merely describe an old 1977 system in which extra-information bits are inserted into a bit sequence to be transmitted over a transmission channel, the extra-information bits being suppressed from the transmitted bit sequence. The Widmar reference does not describe the system of claim 14. Furthermore, not only is the Nakamura reference (which appears to only show use of a wavelength-division multiplex network for an apparently entirely different method) not properly combinable with the Widmar reference since there is no motivation or the like shown to combine features of the two references in either reference; but also, the Nakamura reference cannot be used to cure the deficiencies of the Widmar reference since the Nakamura reference indicates use of a wavelength-division multiplex network and not in the manner or for the needs of the presently claimed invention (nor for the needs of the Widmar reference).

Accordingly, Applicants respectfully request reconsideration by the Examiner of Applicants' application. Applicants respectfully submit that claim 14 is allowable over the cited references; and withdrawal of the rejection of claim 14 and its dependent claims 15 to 18 (which incorporate all of the features of claim 14) under 35 U.S.C. § 103(a) is respectfully requested.

35 U.S.C. § 103(a) – Widmer reference, Nakamura reference, Bingham reference

Claims 19 to 23 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Widmer reference in view of the Nakamura reference and further in view of U.S. Patent No. 5,644,573 to Bingham et al. ("Bingham reference").

Claims 19 to 23 depend from claim 14 and are therefore allowable over the Widmer reference in view of the Nakamura reference for at least the same reasons as claim 14. The Bingham reference does not cure the deficiencies of the Widmer and Nakamura references when in combination. Specifically, the Bingham reference refers to a method for coordinating communications between a plurality of remote units and a central unit to facilitate communications using a frame based discrete multi-tone (DMT) transmission scheme, where synchronized quiet times are provided periodically in the upstream communications. The Bingham reference does not appear to teach or describe at least the features of performing a generation or an analysis of the signaling and control information in one of the network terminator and in a further network element; performing one of the steps of feeding the signaling and control information into the wavelength-division multiplex network, and removing the signaling and control information from the wavelength-division multiplex network; and using a time-division multiplex operation to transmit the signaling and control information with the defined fundamental wavelength via the same components of the wavelength-division multiplex network as the corresponding useful information,

wherein the signaling and control information is capable of being modulated independently of the useful information, as in claim 14 (and thus, claims 19 to 23) as discussed above.

Accordingly, Applicants respectfully submit that claims 19 to 23 are allowable over the references; and withdrawal of the rejection of claims 19 to 23 under 35 U.S.C. § 103(a) is respectfully requested.

35 U.S.C. § 103(a) – Widmer reference, Nakamura reference, Bingham reference, Choquet reference

Claim 27 was rejected under 35 U.S.C. § 103(a) as unpatentable over the Widmer reference in view of the Nakamura reference and further in view of the Bingham reference and U.S. Patent No. 4,330,858 to Choquet (“Choquet reference”).

Claim 27 depends from claim 14 and is therefore allowable over the Widmer reference in view of the Nakamura reference and further in view of the Bingham reference for at least the same reasons as claim 14 (see discussion re claims 19 to 23). The Choquet reference does not cure the deficiencies of the Widmer, Nakamura and Bingham references when in combination. Specifically, the Choquet reference refers to a time domain supervisory channel for data terminal equipment which uses a common channel to carry both normal and supervisory messages, the supervisory messages being inserted into the message stream during intervals between normal messages via setting 1 enabling data to pass from the normal message generator directly to the channel, setting 2 enabling data to pass indirectly from the normal message generator through a delay line to the channel, and setting 3 enabling data to pass from the supervisory message generator to the channel. The Choquet reference does not appear to teach or describe at least the features of performing a generation or an analysis of the signaling and control information in one of the network terminator and in a further network element; performing one of the steps of feeding the signaling and control information into the wavelength-division multiplex network, and removing the signaling and control information from the wavelength-division multiplex network; and using a time-division multiplex operation to transmit the signaling and control information with the defined fundamental wavelength via the same components of the wavelength-division multiplex network as the corresponding useful information, wherein the signaling and control information is capable of being modulated independently of the useful information, as in claim 27, as discussed above.

Accordingly, Applicants respectfully submit that claim 27 is allowable over the references; and withdrawal of the rejection of claim 27 under 35 U.S.C. § 103(a) is respectfully requested.

Applicants also incorporate herein all previous comments and responses made during the prosecution of this application.

In summary, it is respectfully submitted that all of claims 14 to 23 and 27 of the present application are allowable for the foregoing reasons.

CONCLUSION

In view of all of the above, Applicants pray and believe that the rejection of claims 14 to 23 and 27 under 35 U.S.C. §§ 112, 103(a) have been overcome. Accordingly, it is respectfully submitted that all claims 14 to 23 and 27 are allowable. It is therefore respectfully requested that the rejections be reconsidered and withdrawn, and that the present application issue as early as possible.

If it would further allowance of the present application, the Examiner is invited to contact the undersigned at the contact information given below.

Respectfully submitted,

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